

Notice of Allowability	Application No.	Applicant(s)	
	10/667,744	SUMNER ET AL.	
	Examiner	Art Unit	
	Taylor Victor Oh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/12/06.
2. ☒ The allowed claim(s) is/are 21-27 and 32-38, renumbered as claims 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>4/13/06</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>2/24/06 & 11/21/05</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>See Continuation Sheet</u> . |

Continuation of Attachment(s) 9. Other: the drawing filed on 9/22/03 is accepted by the examiner.

The Status of Claims:

Claims 21-27 and 32-38 are pending.

Claims 21-27 and 32-38 are allowed.

Examiner's Amendment and Reasons of Allowance

I. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, It MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with an attorney of record, Mr. Dennis V. Carmen on 4/13/06.

II. The application has been amended as follows:

In Claim 21 , lines 3-4 on page 2 (the amendment filed on 1/12/06), the phrase "-- at an oxidizing temperature -- " is inserted after the phrase " a primary oxidation zone".

In Claim 32 , lines 3-4 on page 4 (the amendment filed on 1/12/06), the phrase "-- at an oxidizing temperature -- " is inserted after the phrase " a primary oxidation zone".

In claim 27, line 2 on page 3 (the amendment filed on 1/12/06), the phrase "-- combined is -- " before the term " present" is replaced with the verb " are ".

In claim 27, line 4 on page 3 (the amendment filed on 1/12/06), the phrase "-- the bromine can be in concentrations -- " before the term " of " is replaced with the phrase " bromine is present at a concentration ".

In claim 38, line 2 on page 5 (the amendment filed on 1/12/06), the phrase "-- combined is -- " before the term " present" is replaced with the verb " are ".

In claim 38, line 4 on page 5 (the amendment filed on 1/12/06), the phrase "-- the bromine can be in concentrations -- " before the term " of " is replaced with the phrase " bromine is present at a concentration ".

III. The following is an examiner's statement of reasons for allowance:

The close references for the current invention are Scott et al (US 4,158,738) , Takuma (EP 00111784) and D. H. Myer (US 3,584,039).

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Scott et al teaches a process of producing terephthalic acid by oxidation of para-xylene in the following steps of :

- a. feeding a mixture of p-xylene, a lower monocarboxylic acid solvent, and water in the presence of cobalt (148 ppm) and manganese (129 ppm), and bromine (563 ppm) (see table II, col. 13) into an oxidation reactor at 210° C (see col. 2, lines 42-56) in the presence of oxygen;
- b. removing the product as a slurry from the oxidizer;
- c. feeding the slurry of the terephthalic acid mixture to two additional crystallizers where the product is cooled to 105 ° C;
- d. purifying the slurry of the terephthalic acid by filter (see col. 8, line 56), centrifuges and dryers (see col. 3, lines 39-62).

Takuma et al teaches a process of producing terephthalic acid by oxidizing p-xylene with oxygen in an acetic acid solvent in the presence of cobalt, manganese, bromine (see col. 4, lines 59-64) in the following purifying steps (see col. 3, lines 7-25):

It teaches the successive oxidation steps at two different oxidizing temperatures.

Furthermore, D.H. Meyer teaches that the impure terephthalic acid is subjected to hydrogenation in the presence of hydrogen and a Group VIII metal on an inert support ; after separation of the reaction solution from the catalyst, the crystallization is conducted to precipitate the terephthalic acid (see col. 2, lines 20-30). Any method of purifying crude terephthalic acid must reduce or eliminate impurities so as to produce the pure terephthalic acid product suitable for the production of super polyesters (see col. 2, lines 1-4).

However, the instant invention differs from the prior art in that none of the prior art teach that the temperature, at which the centrifuge is operated, is unspecified; the solid liquid displacement zone should be in-between the two

oxidation steps; furthermore, there is no motivation in the prior art to arrive at the current inventive step for carrying out the solid liquid displacement process in-between the two oxidation steps. In addition, unless all limitations of the claims are met, there is no prior art rejection. See In re Zurko 59 USPQ 2d 1690 (Fed cir. 1991) and In re Lee , 61 USPQ 1430 (Fed cir. 1991).

Therefore, applicants' claimed subject matter would not have been obvious to the person with an ordinary skill in the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning the communication after allowance such as sending all post-allowance correspondence should be directed to "Box Issue Fee " or faxed directly to PUBS at 703-305-8755. This will expedite the process of these papers.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system . Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191(toll-free).

Wing Lee V. O'G
4/13/56